VOL. VI. No. 2. JANUARY 21, 1909.

THE JOURNAL OF PHILOSOPHY
PSYCHOLOGY AND SCIENTIFIC METHODS

THE HIDDENNESS OF THE MIND

I HAVE for some time been interested in accounting for a tendency among philosophers to assume that it is essentially characteristic of a mind to be accessible only to itself. This proposition is rarely supported by evidence; it is commonly held to be sufficient to call attention to it. I furnish here three instances of what I mean, one taken from a philosophical classic, the others from the writings of contemporaries:

> Now it is impossible for me to form the smallest representation of a thinking being by any external experience, but I can do it through self-consciousness only. Such objects, therefore, are nothing but a transference of my own consciousness to other things, which thus, and thus only, can be represented as thinking beings.[1]
>
> The essence of a person is not what he is for another, but what he is for himself. It is there that his *principium individuationis* is to be found—in what he is, when looked at from the inside.[2]
>
> That the mind of each human being forms a region inaccessible to all save its possessor, is one of the commonplaces of reflection.[3]

These are formulations in behalf of epistemology, ethics, and psychology of an almost universal presupposition. I believe this presupposition, as ill-defined and unreasoned as it is universal, to be the greatest present obstacle to the clear and conclusive definition of mind. There can be no doubt of the propriety of distinguishing "internal" and "external" views of the mind, and there can be no doubt of the practical or other circumstantial importance of emphasizing self-knowledge. But I do not believe that such distinction and emphasis lead properly to any generalization such as those which I have quoted; nor do I believe that they contribute fundamentally to the definition of mind. In justification of my belief I propose to consider three topics: (1) the hiddenness of the individual mind from general observation; (2) the mind's famil-

[1] "Critique of Pure Reason," Max Müller's translation, p. 282.

[2] Rashdall, "Personal Idealism," p. 383. Dr. Rashdall deplores the tendency among Hegelians to overlook this important truth.

[3] Washburn, "The Animal Mind," p. 1.

iarity with itself; (3) the characteristic difference between the mind within and the mind without. In the present paper I shall confine myself to the first of these topics, and shall aim to be on the whole constructive rather than critical. To this end I shall offer positive evidence of the mind's hiddenness, while at the same time guarding the evidence against misconception. It will appear, if the analysis be correct, that in certain respects and under certain circumstances a mind can only with great difficulty be known by another mind. It will also appear, however, that this does not imply the absolute impossibility of knowing another mind, but virtually involves the assignment of mind to that same open field of experience wherein all other objects lie. The inaccessibility of mind may be defined logically, or generalized empirically. In other words, it may be contended on general principles that the individual mind, because it contains its elements, must therefore exclude other minds from these elements; or it may be contended that the content of an individual mind does as a matter of experimental fact escape the external observer. I shall examine these two contentions separately.

1. *The exclusiveness of the individual mind logically defined.* It is essentially characteristic of content of mind, such as perceptions and ideas, to belong to individual minds. My idea is mine; and in some sense, then, falls within my mind. But it would be unwise hastily to conclude that it is therefore exclusively mine. It is clear that my idea can not be alienated from my mind, without contradiction. It must not be attributed to the *not-my-mind* which is the other term of a disjunctive dichotomy. *But it does not follow that my idea may not also be your idea.* There are many such cases. Friends are essentially such as to belong to friends, and my friend is veritably mine; but he may without contradiction become yours also. Similarly my home, my parents, my country, although in order to be what they are they must be possessed by such as me, may without logical difficulty be shared with you.

But I may seem to have overlooked a vital point. Although one thing can be the object both of my idea and of yours, can *my idea itself* be also yours? Does not the whole being of *my* idea lie in its relation to me? Doubtless Neptune may become my idea, and also yours; but can my idea of Neptune ever become an idea of yours? Now this clearly depends upon whether the determination of Neptune which makes it my idea can itself submit to another determination of the same type. There is no *a priori* objection that would not beg the very question under discussion. Here again cases from other classes of objects are very common. The sum of three and three may itself be added to three; you may paint me in the act of painting my model; the general may fear the fear of his army. And,

similarly, a thing's relation to me as my idea may enter into another such relation to you and become your idea. It will doubtless remain true that my idea simply, and your idea of my idea, will differ through the accession of the last cognitive relationship; and that in this sense my idea can not be identical with your idea. But it is impossible even to state this trivial proposition without granting that you may know my idea, which is the point at issue.

The mere fact, then, that ideas are always included within some mind, and thereby excluded from what is altogether not that mind, contributes no evidence for the absolute privacy of mind. Any group whatsoever is private, in the sense that what is in it can not by definition be outside of it, nor what is outside of it in it. But this does not prevent what is inside of it from being also inside of something else, nor does it prevent the entire group from being inside of another like group. Everything depends on the particular nature of the groups in question. Generally speaking, groups may be either intersecting or exclusive. Thus the tariff-reform group intersects the republican party, and the high-protectionist group even falls wholly within it, without any loss of identity. On the other hand, coordinate geographical areas, such as North and South America, lie wholly outside of one another. Whether minds, then, be intersecting or exclusive groups depends wholly on the special properties of mind, and not at all on the general properties of the group relation. And there can be no doubt of the ground for classifying minds among intersecting rather than exclusive systems. Indeed such a classification would seem to be necessarily implied in the general conception of social intercourse. How, then, are we to explain the widespread disposition to regard minds as exclusive?

In the first place, we readily extend to our minds the group relation which holds in the case of our bodies. There is a special sense in which things are inside and outside of the mind, but it tends naturally to be confused with the sense in which things are inside and outside of the body. The tendency is partly a misuse of schematic imagery, and partly a practical bias for the bodily aspect of the body. Suffice it here to remark that the mutual exclusiveness of our bodies is so highly emphasized that even the vaguest supposition that our minds are within our skins is sufficient to give rise to a notion that they too are wholly outside one another. Such a supposition is generally admitted to be false, but it nevertheless lingers on the scene, and not only falsifies the grouping of mind, but exaggerates the difficulty of knowing mind from the standpoint of general observation.[4]

[4] I shall return to this point in a later paper on "The Mind Within and the Mind Without."

In the second place, various motives, methodological, religious, and social, have so emphasized the difference between mind and mind, or between the individual mind and the outer world, that this difference tends to be transformed into a relation of exclusiveness. Psychological introspection, when superficially interpreted, defines a region set apart from nature and society. Religious introspection heightens the difference between the inner life and the life of the world. The problems of personal morality under complex social conditions tend to heighten the difference between individual lives. Such a proposition as "No one else can understand me" has only to become familiar and practically intensified to be converted readily into an absolute principle. Thus the *difficulty* of knowing certain aspects of another mind tends to be mistaken for the *impossibility* of the entrance of mind into mind. Proverbial difficulties easily become logical impossibilities. To avoid gross confusion it is necessary to examine the difficulties concretely and circumstantially; to point out the conditions under which they arise, and the elements of mind which they tend to obscure.

2. *The empirical difficulty of knowing another mind's content.* Beyond question the content of an individual mind at any given time may be successfully hidden from general observation. But this in itself does not imply any general proposition to the effect that a mind is *essentially* such as to be *absolutely* cut off from such observation. It may be that your inability to discover what I am imagining, thinking about, or remembering, is only like the assessor's inability to discover the amount of my property; and no one has asserted that property is essentially knowable only to its owner. Let us examine the circumstances.

In the first place, it is evident that under favorable circumstances you have no difficulty in following my mind. Where, for example, we are engaged in such intercourse as involves a bodily dealing with physical objects it is as easy as it is indispensable for each to know what is in the mind of the other. The objects themselves here provide mutually accessible content in a manner that is unmistakable. A clear case in point is the exchange of currency for merchandise; but to illustrate the experience exhaustively would be to traverse nine tenths of life. Such mutual apprehension of the physical things which you and I have in mind is the condition of all intercourse between us; we could not shake hands without it.[5]

[5] It is customary to create a difficulty even here by persistently looking for the content of mind within the periphery of the body instead of in the environment where it properly belongs. I am reserving specific treatment of this misconception for my later paper on "The Mind Within and the Mind Without."

There is another way in which you readily follow my mind, namely, through my verbal report. We do not often sit down and deliberately disclose our minds to one another; more commonly we use language to the end that we may together think the same things. But if you are a psychologist, or an interpreter of dreams, I may "tell" you what is in my mind. Now it is frequently assumed by the sophisticated that when I thus verbally reveal my mind you do not "directly" know it. You are supposed directly to know only my words. But I can not understand such a supposition, unless it means simply that you know my mind only *after* and *through* hearing my words. If it is necessary for you to take a book from the shelf and turn over its pages before you can discover the date of Kant's birth, or walk across the street before you can discover the number of your neighbor's house, do you therefore not know these things directly when you do know them? And if you must wait until I tell you before you know whose image is in my mind, do you therefore not know the image directly when you do know it? If not, then what *do* you know directly when the matter is concluded? Surely not the word, which, having served its turn, receives no further notice. It is not the word which is communicated except in the wholly exceptional cases in which the word is not understood and so does not fulfil its function. And it is certainly implied in all of our subsequent action and intercourse relating to the image that we have access to it jointly, just as we do to our money and our lands; that you know it now even as I know it.

It is important to labor under no misapprehension concerning the general function of language. Language does not arise as the external manifestation of an internal idea, but as the means of fixing and identifying abstract aspects of experience. If I wish to direct your attention to the ring on my finger, it is sufficient for me to point to it or hand it to you. In seeing me thus deal with the ring, you know that it engages my attention, and there occurs a moment of communication in which our minds unite on the object. The ring figures in your mind even as it does in mine; indeed the fact that the ring does so figure in my mind will probably occur to you when it does not to me. If, however, I wish to call your attention to the yellowness of the ring, it will not do simply to handle it. The whole object will not suffice as a means of identifying its element. Hence the need of a system of symbols complex enough to keep pace with the subtlety of discrimination. Now the important thing to bear in mind is the fact that as a certain practical dealing with bodies constitutes gross communication, so language constitutes refined communication. There is no difference of objectivity or subjectivity.

In the one case as in the other mind is open to mind, making possible a coalescence of content and the impinging of action on a common object.

But let us now consider the circumstances which hide the content of my mind from your observation. The most important general fact is this: that your observation will be baffled *just in so far as my dealings with the content of my mind are not peripheral.* Contrary to a common philosophical opinion, my purpose, intention, or desire is least likely to escape you. This element of my mind is revealed even in my "molar" action, in the motions of my body as a whole. Your apprehension of it is as sure and as indispensable to social relations as your apprehension of the physieal objects that engage my attention. The content of my purpose, that is, the realization proposed, and my more or less consistent devotion to it, are in your full view, whether you be a historian of character or a familiar companion. It is not, then, the desiderative element in mind that escapes observation, nor is it any such typical element, but all content in so far as the mind's dealings with it do not reach the visible exterior of the body. But what is implied in this very statement?

In the first place, we imply that the content in question is such as to be knowable by me if I can identify it. Commonly doubt exists only as to which of several things, all plainly known to you, is at the moment known to me. I may tell you, and when I do one is selected and the others fall away. Or you may conjecture, and if your conjecture be true you possess the content, but without being sure of the relation to my mind.

But in the second place, and I here anticipate a charge of grave omission, the relation of the content to my mind must be supposed to be *objectively and discoverably there,* even when I do not acknowledge it by a verbal report. It is impossible to formulate a case of memory, for example, without affirming a connection between the past event which contributes the content and the locally present mind that is recalling it. If I am in fact here and now recollecting a meeting with President Cleveland which took place at the White House in 1894, a complex is defined the essential terms of which are in your plain view. And the connection must be homogeneous with the terms. The past event as it was must be engaged or dealt with by me as I stand before you. In other words, the original perceptual response must be *continued into the present.* But this is possible only through the identity of the nervous system. The link of recollection, connecting past and present, lies in a retrospective functioning of my body which can be accounted for only by its *history.* And this is as accessible as any natural or moral process. When you

know that I am looking at the moon, the salient facts are before you, the focalized posture of my body and its organ of vision, the concentration and consistency of my action, and, most important of all, the moon. In the case of my recollection of President Cleveland the facts are more complicated, and even in part inaccessible, but equally with the facts just cited they are in the context of your possible knowledge. They consist in such elements as my central attentive process, certain persisting modifications of my cerebrum, my original dealings, practical and neural, with President Cleveland, and—President Cleveland himself.[6]

For purposes of further illustration, consider the case of disguised perception. I am watching you "out of the corner of my eye," hoping to deceive you as to my real thoughts. If the strategy is successful it proves that I can render equivocal the evidence you commonly rely on. But does any one seriously suppose that the direction of my thoughts is not discoverably there in the retinal and nervous process responding to your body, and in my intention to deceive? Where my mind is the object to be known, I can embarrass the observer because I can control the object. I can even make and unmake my mind. As you seek to follow my thoughts, I may accelerate them or double on my tracks to throw you off the scent. But I enjoy the same advantage over you if you are an assessor seeking to know my property, and neither in the one case nor in the other is it proved that the facts are not there for you to know as well as I. Indeed the special qualifying conditions to which we are compelled to refer when describing the hidden mind leave no doubt that the difficulties in this case are essentially like the difficulties which counter and thwart any cognitive enterprise. Some things are more difficult to observe than others, and all things are difficult to observe under certain circumstances. This is true of mind in no mysterious or unique way.

I grant that there is much more to be said by way of clarifying the issue. It is only just to admit not only that the mind may be hidden from the observer, but also that it is in certain respects peculiarly accessible to itself. This, of course, does not prove that only I can know myself, or even that I can really know myself at all, but may mean simply that certain data can be collected more conveniently by me than by anybody else. It is only just to admit also that mind as observed introspectively differs characteristically from mind as observed in nature and society. But this does not prove that either is not directly known, or that either is not the real mind. Every complex object presents its parts in a different order when

[6] The seeming paradox of a *present* knowledge of *past* events I have discussed in a previous paper, this JOURNAL, Vol. III., p. 617.

approached in different ways, but in the object as wholly known these parts fit and supplement one another. These are considerations to which I hope shortly to return.

RALPH BARTON PERRY.

HARVARD UNIVERSITY.

WHAT IS PERCEPTION?[1]

IN criticizing my discussion of perception, two of my reviewers have called attention to the fact that I have omitted anything but the most casual mention of the dependence of perception on past experience. This they consider to be a defect in the treatment, in view of the fact that no present experience can be fully explained without reference to the past. I refer to these criticisms for the purpose of meeting them with the most explicit statement that in my view perception should be discussed without bringing in, as has been the custom, a mass of revived factors. I am prepared to undertake the defense of the position that percepts do not contain revived elements in any such fashion as appears in the conventional discussions.

A concrete illustration will make this antithesis perfectly clear. In reading the familiar words of every-day language, we are constantly recognizing that these words have a value and meaning for our mental lives which can be explained only by reference to the earlier contact which we have had with them. The earlier experiences which I have attached to such a word as " man," for example, give that word a value for my consciousness which is totally different from the value which it would have for the consciousness of a child who had not learned to read, or for the consciousness of a foreigner unacquainted with our language. But when the psychologist attempts to account for this present interpretation of the word "man" in my consciousness by saying that there is a train of revived elements brought forward from earlier experiences, he falls into confusion. The important fact is that here and now my consciousness is such as to give meaning and value to this word. Quite apart from the history of the matter there is a present situation to be understood and explained, and it mixes matters badly to talk about past experiences which are not now present when what is supposed to be under discussion is the present experience and its immediate characteristics.

Let us return to our concrete case and follow it through several stages of its development. When the individual who is learning to

[1] The first paper of this series appeared in Vol. V., p. 676, of this JOURNAL.

read is first brought into contact with the printed word "man," he is given at the same time the sensory impression of hearing which comes from the pronunciation of the word by his instructor. The auditory impression in this case is immediately used by the individual who is learning the word as a guide for his own articulation. He learns to react in such a way as to adjust himself to the auditory sensations which he receives from his instructor's voice and his own. Through the sound he thus comes to attach to the visual impression a form of reaction which would not have been suggested by the visual impression itself. As soon as the habit of articulation is once established, however, the sound impression loses its importance and may be dropped altogether from a description of the individual's experience with the printed word. The elements of the situation as they appear in the case of the developed reader are a visual impression followed by a reaction of articulation, and in some cases the articulation is reduced to the lowest possible terms. We have evidence in abundance that the reactions of articulation are of great importance in explaining the present perception of a word even when they are so reduced in intensity as to give rise to no sound whatsoever. It would, however, be very far from the truth to contend that the visual impression arouses first an auditory memory and then a process of articulation. The auditory factor has served its purpose and disappeared altogether, leaving behind its consequences, but no remnant of itself as a concrete factor in the situation.

Another illustration which may be carefully examined is that of continuous vision in the monocular field in spite of the blindspot. Here, as those writers tell us who insist upon a formal explanation of vision, certain factors of experience are actually added to the stock of present sensory elements, so that the field of vision is filled out by these added factors. Again I take the opportunity of emphasizing very clearly the antithesis between such a position with regard to vision in the blindspot and the position which I have attempted to defend. The effect for visual perception is, indeed, like that which would be secured by adding to consciousness certain sensory factors which are demonstrably not present. But this effect of continuous vision is no sound basis for the argument that the method of attaining the effect is the particular one assumed. The same effect may here, as in so many other cases, be produced by a variety of different methods, and it has been my purpose to call attention to a method which seems to me to find very much more in its support than that which has been commonly accepted. I should say that the interpretation of the visual field as continuous is not at all a matter of adding content factors, but rather a matter of the use to which the given content factors are put. In other words, without

developing any elaborate machinery of added factors, we may explain continuous vision by saying that the sensory factors which are given are all that are necessary to call out in consciousness the complete interpretation. Continuity does not exist as a matter of sensation at all; one could add factors to all eternity and get no continuity. It exists rather as a general result of the constant habit of treating such factors of experience as are given in sensation in terms of a larger recognition of their value and effect upon active life. Every individual has learned by experience with the world that the field of vision presented to the single eye is continuous, and that it may be so treated. We never make any minute analysis of each particular field of vision, but we go forward in every case with the general mode of interpretation justified by experience. A closer examination of the phenomena themselves will show that this statement is defensible in all detail. Suppose an observer is looking at a field colored by some shade of color which he has never seen before. This is no radical assumption, for some of the minor shades of color certainly could be found which would be novel to any individual. Such a field of color viewed monocularly would undoubtedly be interpreted as continuous in spite of the fact that the observer had never before had this particular shade of color presented to him. We should then find ourselves obliged to say, if we insisted on finding factors with which to fill in the blank space, that the filling in of the blindspot consists in this case, not in the borrowing of elements from the past, but rather in the bringing over of elements from the surrounding parts of the field of vision to the blind area. In other words, the sensory factors which we should assume, since in this case there would be no legitimate appeal to past experience, must be borrowed from the present surrounding field. It thus appears that the formula of remembered sensory factors is altogether indefensible even in the cases sometimes used in support of such a formula. It is somewhat more difficult to give an equally pointed argument for the abandonment of the sensory formula altogether, but when once the formula of borrowed factors is weakened, it will easily give place to a formula of functional interpretation. Thus, it is much simpler to assume that the blindspot is wholly neglected and that the interpretations of continuity are based upon what is given, the blindspot being neglected, than to assume the more elaborate process which does not correspond to any observable fact. We do not know from direct observation that we fill in the blindspot. The burden of proof lies with him who asserts that we do.

The same may be said of a great variety of other cases. Take, for example, the familiar case of the person who overlooks a false letter in a misprint, or who recognizes without hesitation a word

from which a letter has been omitted. The formula which has been adopted by many writers for such cases as these is that the absent letter is supplied out of earlier experience, or that the present visual image which is incorrect is entirely neglected and an element derived from past experience substituted for it. The fact is that there is no need of any such elaborate assumption. Indeed, it would be a very doubtful basis for general explanation of our recognition of a word to assume that a present visual image can be neglected in favor of a much fainter element drawn from past experience. The simpler treatment of such a case is to recognize a general fact that the visual perception of words does not deal in detail with each one of the letters. We recognize words, and even phrases, in a single glance, and many of the elements are so vague that they may be treated as entirely passed over in ordinary perception. To be sure, when we are learning to recognize a new word, the details are all of them subjects of careful examination. The details are at that time vividly presented and constitute a complex of factors, each element playing its part in the building up of the total complex. As the process becomes more and more familiar, many of these elements recede into the background of consciousness. We now select those characteristics of the word as a whole which are necessary for its recognition. These characteristics may be the general length of the word together with a few of its more conspicuous letter elements. These few salient characteristics are the sensory factors upon which we depend for our present recognition of the word. To assume that the details continue to be used in later life in the same vivid way in which they are used while we are learning the word, is to overlook one of the most essential changes in mental development. And yet this seems to be exactly what many theorists have done when they try to make us believe that each time we come in contact with a word we fill in all of the sensory elements that have ever been utilized at any time in building up the percept of this word.

The fact is that formalism without limit has come into our psychology with all these hypotheses about added memory elements and added sensory factors. One gets a notion from reading the ordinary text-book on psychology that a percept is a kind of rationally constructed argument with oneself in which one builds up a huge complex of factors into an elaborate mental process.

Pausing for the moment in our criticism of the usual doctrine of perception, let us call attention not merely to the weakness of the theory of "added factors," but to the dangers for the elementary student of introducing him to all this hypothetical constructive process. Suppose it is said that the doctrine of factors derived from past experience is at least picturesque and keeps the student alive to

the history of each perceptional development. I should say that even this reference to the development of present percepts is untimely, for it fills the mind of the student with a formal kind of doctrine which makes him approach every mental process with a false atomistic notion of its probable composition. He gets the notion that one is at liberty to introduce into his accounts of experience any elements that seem to him necessary for an easy explanation of their present composition. A kind of imaginary description of what an experience might be in order to fit the theory is substituted in the student's mind for a rigid demand that the description of mental processes conform to careful observation.

This statement is borne out by the history of psychology, for the conventional treatment of mental life has been atomistic and formal. Elements have been emphasized rather than functions. Indeed, we find it difficult to introduce into our current discussions of mental processes anything except the most definite and formal concepts. Witness the fact that we have been listening of late to a discussion which has been confused because there seems to be no way of defining a common functional fact of mental life in anything but negative terms. We hear much about imageless ideas. Such phrases represent what is undoubtedly a perfectly legitimate reaction against the formalism of the earlier description. They indicate that in dealing with complex ideas there must be something besides the repetition of earlier sensory factors. And yet the writers who use such negatives find it extremely difficult, if not quite impossible, to explain the basis of these imageless ideas. Certainly there must be some sort of content in the mind when, for example, one makes a voluntary movement and is not conscious of any definite sensory picture as the basis of the movement itself. Appeal is sometimes taken to some such general formula as the "total situation" as the basis and motive of behavior. This phrase "total situation" certainly must include certain definite elements of experience which must be classified as sensory processes, or at least as recalled ideas. The mistake consists in the usual tendency to make sensory factors or ideational images the only possible phases of consciousness. The fact is that every experience is made up in part of phases which are totally different from those which can be described by the term image. The simplest perception of an object which is presented to the eyes contains a great deal more than the sensory elements of which it is composed. It consists of certain forms of arrangement and certain tendencies toward reaction which must be recognized by any student who would work out an adequate account of these processes. In the same way any idea contains very much more than the image which has usually been described in the discussion of

memory processes. There may, indeed, be an image present, but it is usually the least significant part of a whole situation. It makes very little difference when I think of my friend whether I have a full image of his personal appearance, or even a vague outline; it is enough that the faintest image basis should be present for the elaborate processes of thought and action which the idea aroused in me. To call these processes of action and arrangement imageless is very far from the mark. They are, indeed, phases of consciousness which differ from sensory images or memory images. They are functional aspects of experience. As such they are not separable from content factors altogether, nor can their significance for mental life be understood without a recognition of their relation to the content factors of experience. To cut off, for example, the moment of mental activity which immediately precedes a voluntary action, and to say that this moment of consciousness is devoid of content factors because there is no image of the reacting organ, is to fail to recognize the fact that voluntary behavior is the final stage of a total process which includes at its outset some form of mental content. Following upon the first presentation of content there may have been a most elaborate process of readjustment and reaction. This elaborate process is not to be classified in terms which are appropriate only to its first stage. To say that any phase of the process is non-sensory seems to be an effort to set something in opposition to what is expected. The very use of the term would seem to indicate that there is a lingering desire on the part of the student to recognize sensory elements as the fundamental facts of experience. The whole situation could be much more adequately dealt with by recognizing from the outset that every situation is made up of phases which are sensory and others which are utterly indescribable in sensory terms. These latter should not even be called non-sensory since it is not in keeping with their nature to compare them with sensory elements.

Once the possibility of recognizing a wholly different type of explanation is admitted, the conscious process will be treated as a complex made up of sensory elements and other processes which are functional in character and deserving of a separate treatment. We shall then see that any particular phase of experience may be described either with reference to its sensory facts or with reference to its functional phases of activity. When accordingly the sensory elements are conspicuous in a mental process, we shall recognize the conspicuousness of these elements as an important characteristic of the whole process. When, on the other hand, the sensory processes are relatively less conspicuous, we shall treat it as a part of our psychological problem to explain why the sensory factors are thus insignificant. The balance between the two types of mental activity

will thus come to be a problem in itself, and certainly one of the very greatest moment to explanatory science.

The formula which will be found to be useful in the adjustment of relations between sensory processes and other phases of consciousness is a formula based upon the recognition of bodily activities as important conditions of mental life. Whenever a sensation gives rise to a certain reaction, the importance of that sensation for the individual is determined not by its own quality and intensity, but rather by the relations into which it is brought through its tendency to arouse reaction. The reaction which a particular individual will tend to give to a sensory impulse is undoubtedly a matter of development. All of the instincts are important conditions of consciousness because they are the sources of reactive tendencies, and all of the acquired habits of the individual are significant for the same reason. Whether a given mode of reaction and its consequent effects upon conscious organization are due to instinctive organization or to some kind of personal experience which has resulted in a habit, the importance of the motor processes for the present percept is clear. The present percept is not made up of the past experience or the stages of development which produced the habit, the percept is a simple direct process of recognition just because of the present conditions which now exist. It is the immediate condition which interests us in explaining the nature of perception. If we are led off into a discussion of how the percept came to be what it is, we shall make the percept seem to be more complex than it really is.

Let us consider the definite case of space perception. Although such perception is a product of long individual development and adjustment, it is at the present moment conditioned by the fact that a given sensation arouses a definite reaction in its own direction. It would confuse the mind of a student to say of present space perception that it is made up of a large number of past experiences with different bodily adjustment. Whereas to say that the immediate localizing of a present sensation is the conscious result of a present motor tendency, is a direct and altogether valid formula. The source of such a motor tendency is often remote, as, for example, in the case of the eye. There can be no question that there is a reflex tendency born in every individual so to adjust the eye that images fall upon the fovea. Our space perception is in a very large measure conditioned by this reflex tendency, and in so far forth it is quite appropriate to say that our present space perception depends upon an innate tendency in the nervous organization. This innate tendency is in no sense of the word a sensory element, nor is it an idea or memory image of any kind whatsoever. Again there are certain personal experiences which have supplemented the innate reflex

tendencies. Such personal experiences as grow out of the repeated contact with familiar objects in the environment have perfected our adjustment of the relation between visual impressions and the movements of our right and left hands and other active organs. These gradually accumulated personal experiences have been added to the innate tendencies of behavior in such a way as to build up a single system of reactions conditioning a single space in perception. It is quite impossible to see how a final scheme of spatial arrangement can include innate factors and also those derived from personal experience if it is not recognized from the outset that spatial arrangement is something other than a series of memory images. Spatial perception is the product of a system of reactions. Whatever the source in the past, the common outcome of all of these different influences is a definite mode of present arrangement of sensory factors in a spatial scheme dependent upon a present system of motor tendencies. To describe the nature of this present mode of adjustment in adequate terms is a psychological problem very much more urgent than to go into the elaborate discussion of the sources of this present mode of adjustment.

One final statement which can be made in support of the foregoing argument is that an overemphasis of ideational processes in the earlier psychology has vitiated in very large measure the whole treatment of perception. Perception has again and again been treated as if it were a process made up of elaborate forms of reasoning. To hold that the perceptual recognition of an object which stands before me is the result of anything like an elaborate form of reasoning is to grossly misunderstand the economy of mental life, for percepts are advantageous just because they are simple and direct. It is to do violence also to the fact now so fully recognized in psychology that ideas are relatively very late forms of mental action. The animals are supplied with all of the perceptual forms of consciousness though they have not developed ideas, or language, or any of the high types of abstraction. How can they be conceived to have developed their simple perceptual processes if the formula for these processes is to be worked out in terms of remembered factors? One interesting question that suggests itself in this connection is the question how animals become so highly adapted to spatial differences, as contrasted with man, who seems to acquire the spatial form much more slowly and very frequently less accurately. If space were always to be recognized as the product of ideas, we should have to assume in certain birds, for example, a very high type of mental development. What we can recognize, on the contrary, is that the perception of animals and the perception of man may issue in similar forms of mental adjustment in the end, but may

reach these ends by wholly different routes. The animals show instinctive recognition of spatial relations as a result of organized racial reaction. Man has to work out many of his reactions individually. To demand a single formula for the two processes of development is to confuse the final stage of the evolution with its earlier stages.

These illustrations make clear the position which I hold regarding the nature and treatment of perception. Perception is a compact, immediate process dependent for its explanation upon present conditions here and now at hand. To depart from this formula tends to destroy clearness of thought and exposition.

CHARLES H. JUDD.

YALE UNIVERSITY.

SOCIETIES

THE EIGHTH ANNUAL MEETING OF THE AMERICAN PHILOSOPHICAL ASSOCIATION

THE eighth annual meeting of the American Philosophical Association took place, in conjunction with the sixtieth annual meeting of the American Association for the Advancement of Science, in Baltimore, at the invitation of the Johns Hopkins University, on December 29, 30, and 31, 1908.

The official social functions were a reception by President Ira Remsen, of the Johns Hopkins University, to members of the association and affiliated societies in McCoy Hall on Monday evening, and the joint smoker of the American Philosophical Association, the American Psychological Association, and the Southern Society for Philosophy and Psychology at the Johns Hopkins Club on Wednesday evening.

Three presidential addresses were read before the associations. The Philosophical Association adjourned, as usual, to hear the address of the President of the Psychological Association, on Wednesday afternoon. Professor Stratton spoke on "The Betterment of Rival Types of Explication" in psychology, making a broad-minded appeal for an open-door policy. In the evening, the President of the Philosophical Association, Professor Münsterberg, addressed a large audience in the assembly room of the Baltimore City College, in his usual eloquent fashion, on "The Problem of Beauty." And at the close of the last session, on Thursday, the association listened to the President of the Southern Society for Philosophy and Psychology, Professor J. Macbride Sterett, who spoke on "The Proper Affiliation of Psychology—with Philosophy or with the Natural Sciences?"

The meetings were, for the most part, interesting and well attended, but the opinion was generally voiced that there were too many presentations at each session and that the previously prepared discussions created a formal and unsatisfactory atmosphere. It would be advantageous if abstracts could be circulated more freely beforehand and the discussion trusted to the spontaneity of the moment. Logical problems had by far the greatest prominence, being represented by more than half of the papers. Pragmatism, except for some criticisms, appeared only in the form of a philosophy of development, but as such was of considerable importance. Ethics was represented by two studies, both at the last meeting; theology had one paper, the first day; and, except for Professor Münsterberg's address, esthetic problems did not appear at all.

The first paper of the regular sessions, by Dr. Karl Schmidt, "Concerning a Philosophic Platform," urged the establishment of a basis of agreement amongst philosophers in the form of a problem to which progressive contribution might be made, so that philosophy could attain a growth similar to that of science. A like note was struck at the last meeting by the "Doctrine of Histurgy," of Mrs. Franklin, in which was commended a fixed group of principles for philosophy, selected by a consensus of the competent, and fitted together to constitute a woven tissue or fabric of truth.

Professor Spaulding followed Dr. Schmidt with a paper on "The Postulates of a Self-critical Epistemology." After pointing out that epistemological theories, as knowledge, usually contradict their own principles, Professor Spaulding proceeded to expound the postulates of a self-critical theory and to find such a theory in evolutionary realism. A short, but lively, discussion followed. Professor Woodbridge interpreted the first postulate "that there must be postulates" as a denial of the possibility of epistemology, or rather the reduction of it to logic. This view was so well seconded that it seemed as if epistemology was to vanish from philosophy, and Professor Spaulding had to take refuge in the position that at least there are problems involved in knowing and the solutions of these problems must be based on hypotheses.

Miss Rousmaniere contributed a study in inductive logic, courageously undertaking to provide "A Substitute for Mill's Methods in an Introductory Course." As scientific investigation does not actually follow the course layed down by Mill, a new account based on recent science, Pasteur's "Life and Letters," is formulated. Discussion showed approval of the plan, but a desire for further generalization and development of the results.

As representative of theological problems, Dr. Hayes described our knowledge of God as the result of inference closely analogous to

that whereby we attain our knowledge of men. It was objected that the latter knowledge is acquired through direct perception of bodily expressions, and Dr. Hayes replied that we could know men equally well through their works.

Mr. Steele's "Naturalistic and Theoretic Thinking" touched upon so many great philosophical problems that it proved fruitless in discussion.

On Wednesday morning there was a large attendance and a somewhat less scattering of interests. Dr. Ewer's "Paradoxes in Realistic Epistemology" defended dualistic realism on the ground that its paradoxes are not genuine contradictions although the facts may be puzzling. Perceptions need not claim to be perceptions of present objects, and are, in fact, always perceptions of a more or less remote past.

Professor Albee exposited the "Present Meaning of Idealism." Prefacing his remarks with the assertion that subjective idealism and materialism are dead, he defined objective idealism as the philosophy that starts with experience and analyzes its two complementary parts, the subjective and the objective. Mind is merely one side of experience when experience is regarded as an organic whole. The distinction between realism and idealism is vanishing with the increasing recognition of experience as the only reality. Mr. Pitkin asked the pertinent question, If idealism is no longer a means of explanation, but merely a method, why retain the name? to which was replied, The name is to commemorate its idealistic ancestors.

The discussion of the afternoon was tensest over Professor Creighton's criticism of portions of Professor Baldwin's "Genetic Logic"—under the title "The Notion of the Implicit in Logic." The genetic series always demands something new; it is, therefore, not explanatory, and its underlying identity is not clear. Professor Baldwin explained that both teleological and mechanical analyses depend upon imposing outside categories on a series, while real explanation must be implicit in the series. Both teleological and mechanical explanation are possible, but they are not exhaustive. Time limitations cut off the discussion without mutual understanding having been reached.

With respect to "The Field of Propositions that have Full Factual Warrant," Professor Marvin pointed out that generalization in the factual field is extremely limited. Our factual propositions quickly become postulates. The facts form a logical bridge between the existential and the non-existential; they suggest principles and guide development, but all inference is deductive. Induction goes by leaps.

Dr. Sheldon's "Analysis of Simple Apprehension" was a psychological study of presentations having objective reference, and con-

cluded that the psychological facts give no justification of the logical use of the subject-predicate relation. The sufficient definition of the simplest cognition is a content in relation, plus a disposition to believe. Mr. Pitkin pointed out that such psychological analysis is not fruitful, for it is not itself indisputable.

On Wednesday afternoon the first paper was omitted on account of the absence of Professor Leighton, but even so the meeting was hurried. "The Outline of Cosmic Humanism," by Dr. Doan, recalls an early suggestion of Charles S. Peirce, and was aptly characterized by the last speaker of the day, Professor Hume, as Schopenhauerian pragmatism. Professor Hume spoke of "Pragmatism in its Relation to the History of Philosophy," and drew the conclusion that pragmatists ought to pay more attention to the meaning of will; and if they pass beyond merely human will, Schopenhauerian and Fichtean pragmatisms are possible, and pragmatism may even find itself functioning as absolute idealism.

Professor Montague, on "The Good, the True, and the Beautiful," also criticized the pragmatic movement. The true can not be subordinated to the good, for the true arises from the conformance of a judgment to environment, the good from the conformance of environment to desire, and the beautiful from the harmony of an organism with its environment; and these concepts are, therefore, essentially independent.

The best received and most brilliant paper of the afternoon was Professor Moore's "Absolutism and Teleology." Absolutism complains that the evolutionary point of view can furnish no criterion of progress, but absolutism, although it assumes a goal for the universe, admits that no finite individual can know what that goal really is, and so it gets no help from the assumption. Professor Hibben was inclined to demur on the ground that the two points of view, absolutistic and developmental, are not mutually exclusive.

Thursday morning was devoted to a discussion: "Realism and Idealism." Although expressing doubts as to the utility of the discussion, Professor Royce appeared as the first speaker. He stated his well-known form of idealism. The real world is nothing but the true interpretation of the surroundings in which I find myself. To reject idealism is to declare that your world is interpreted in a way which is not an interpretation. Professor Royce spoke rather sharply of those who are always prating of experience as if experience were something inflexibly given, whereas immediate personal experience is inadequate, and human experience is only an ideal construction. The real world is postulated, or, in the language of Professor Münsterberg, acknowledged. The essence of idealism is to hold that the world is real only as an interpretation of experience. Therefore, he

added, all idealism's opponents will verify this thesis and appear as idealists.

Professor Dewey, who followed, claimed to avoid this consequence by remaining within specific concrete limitations. He showed that, in its history, the logic of description has always side-stepped idealism and remained realistic. It is only the generalization of logical motives that leads to absolutism.

Professor Woodbridge followed with the statement that idealists make the reflective character of consciousness primary, while realists make it secondary. He then developed his realistic theory of the nature of consciousness, affirming the existence of both qualitative and quantitative causes in nature and explaining the presence of sense organs as an apparatus developed to bring about responsiveness to qualitative causes. This responsiveness results in qualitative effects which we call sense qualities. These qualities, however, do not constitute consciousness. It is only when reactions due to the coordinating and unifying function of the nervous system supervene upon these qualities that consciousness exists.

Professor Bakewell criticized at some length the popular interpretations of Berkeley. Realists must retain reality within experience; the solid ground of fact resolves into the shifting ground of experience, and idealism is differentiated only by the stress it lays on the subject-object relation and the activity of thought.

Professor Norman Smith criticized vigorously both realists and idealists for shirking the problem of the relation of mind and body. Objective idealism merely emphasizes the relation of subject and object, but does not touch the psychophysical problem. Professor Dewey's realism vacillates between subjectivism and materialism, and for Professor Woodbridge, also a materialist, the relation of mind and body is passed over as a needless metaphysical puzzle. Avenarius and Bergson have been obliged to make this problem central, and Professors Dewey and Woodbridge ought to do so.

The papers were then open to discussion. Professor Ormond expressed his doubts of there being any real issue at stake. Professor Dewey asked that the label materialism be defined, and if he is a materialist, what of it? The discussion might have been more interesting if there had been some attempt to answer these questions. Professor Woodbridge showed some surprise that he should have been thought to have centered his discussion on any other problem than that of the relation of mind and body, and did not appear overcome by the criticism that his view made certain problems needless metaphysical puzzles. Professor Smith appealed to the audience as to whether Professor Woodbridge had said anything about consciousness. The discussion was summed up by Professor Royce as veri-

fying his prediction, and especially Professor Dewey had made use of an idealistic scheme of past and present in his historical remarks. Professor Woodbridge merely put himself out of the world and described how it looks to one who is not in it. The problem of mind and body is to be solved through the fact that the brain itself is only real as an idealistic interpretation.

Several interesting things must have appeared to an onlooker in this discussion. In the first place, as had already been suggested by Professor Albee's paper on Wednesday, idealism has taken on a new meaning and is not so different from realism as might have been supposed. It was also interesting, within twenty-four hours of the time we had been told by Professor Albee that materialism was dead, to find it reincarnated in Professors Dewey and Woodbridge—or shall we take Professor Albee's statement and Professor Smith's criticism as the premises of an enthymeme of the third order? The underlying differences between the idealists and the realists might, perhaps, have been more clearly brought out by a discussion of absolutism and non-absolutism, as such differences were evident although not explicitly expressed. In general, the idealists seemed more polemical and were prepared to start from a preconceived interpretation of the universe as a whole, and the realists were too busy developing their concrete problems to indulge in as much polemic as would have been desirable. The idealistic contributions to thought were limited necessarily to the exposition or the filling in of already existing systems, almost to deductions of consequences, while the contributions of the realists took the form of a growth toward a system not yet fully defined.

Wide-spread fatigue, due to the strain of the previous meetings, was manifest on Thursday afternoon, and the pressure of time was greater than ever. Considerable interest was aroused by the paper of Dr. Isaac Husic, substituted for the one announced, on "A Plan for a Philosophical Lexicon of Philosophic Terms in Greek, Syriac, Arabic, Hebrew, and Latin." It was voted informally, as an expression of interest, that a committee be appointed by the Chair to consider the value of the work, and to report on it to the association in the business meeting of next year. Professors Royce, Newbold, and Gardiner were appointed.

The result of Professor Singer's "Reflections on Kant's First Antinomy" was that Kant's discussion is adequate in so far as it deals with space, but inadequate as to time. A finite past time is intelligible, for there are no moments in a mechanical system in a state of complete rest, but the fact of a finite or infinite past can only be settled on experimental grounds. An infinity of experiments is necessary, so the antinomy holds good.

The ethical discussions of the meeting were presented by Dr. Cohen and by Dr. Mecklin. Dr. Cohen's paper, on "Kant's Doctrine of the *Summum Bonum*," was an interpretation and defense of Kant's union of goodness and happiness. Dr. Mecklin's "Idea of Justice in Christian Ethics" contrasted the Greek view of justice as an attribute of the state with the Christian attribution of it to the individual. Justice is not a Christian virtue, for it conflicts with self-sacrifice, and consequently holds a place only in the last judgment.

Mrs. Franklin's paper has been mentioned in connection with Dr. Schmidt's in the account of the first session.

At the business meeting of the association a vote of thanks was offered to the Johns Hopkins University for the courtesies shown the association. The following officers were elected: President, Professor Hibben, of Princeton University; Vice-president, Professor Tufts, of the University of Chicago; Secretary-treasurer, Professor Thilly, of Cornell University; new members of the Executive Committee, Professor Bakewell, of Yale University, and Professor Woodbridge, of Columbia University, to succeed Professor Lord, of Columbia.

Dr. Cunningham, of Middlebury College, Professor Wilde, of the University of Minnesota, Professor Payne, of the University of Virginia, and Professor Pratt, of Williams College, were elected members of the association.

It was voted to leave the decision as to the place of the next meeting of the Philosophical Association to the Executive Committee, with an expressed preference for New Haven.

The committee on the publication of important works of early American philosophers reported that the Columbia University Press would probably be enabled by friends of the University to publish the "Elements of Philosophy," by Samuel Johnson, the first President of Kings College, edited by Professor Woodbridge, under the auspices of the name of the association. The committee was asked to continue its work by encouraging other universities to do likewise with respect to appropriate works, and $75 from the funds of the association was set aside to aid in the preparation of a bibliography of early American philosophy.

It was resolved that a committee be appointed by the Chair to cooperate with similar committees from the Historical Society and other societies in getting philosophical research before the Carnegie Institution in Washington under the same conditions as other scientific work. And it was also resolved that a committee be appointed to cooperate with similar committees from other societies to influence the Committee on Ways and Means in Washington to the end of

having scientific books, printed in English, admitted at the Customs House free of duty.

HAROLD CHAPMAN BROWN.

COLUMBIA UNIVERSITY.

REVIEWS AND ABSTRACTS OF LITERATURE

La philosophie moderne. ABEL REY. Paris: Ernest Flammarion. 1908. Pp. 369.

It is the purpose of this book to present "a summary statement of the form which the great problems of philosophy assume at the present time." The original physiognomy of modern philosophy is a result of the intimate connection between philosophy and science. Instead of ignoring the accomplishments of scientific activity, according to the manner of the preceding epoch, the philosophy of to-day takes as a point of departure of its inquiries the results of positive knowledge. Leaving aside all isolated attempts at solution, we have the general tendency of theoretic activity expressed in the antithesis of "scientism" and pragmatism. Either scientific method is the only path to the attainment of truth (positivism, rationalism, "scientism") or there are other sources of true knowledge, such as "religious feeling, moral ideas, sentimental intuitions." According to this latter point of view, science is an artifice whose sole validity consists in its practical utility. The current of ideas representing this movement is synthetized under the expression "pragmatism." It is the essential thesis of this study to oppose "scientism" to pragmatism.

The method to be followed in this examination of contemporary philosophical problems is indicated by the characteristic intimate connection between philosophy and science already noted as the original physiognomy of modern philosophy. Each chapter of this book is devoted to a special problem, and is at the same time concerned with a fundamental science, or rather with the value of the particular science, the objective knowledge it can give us. Chapters II., III., IV., V., VI., VII. are concerned, respectively, with the problem of number and extension (the quantitative properties of matter), the problem of matter, the problem of life, the problem of mind, the moral problem, the problem of knowledge and of truth. The fundamental query throughout these discussions presents itself as follows: Is knowledge merely a consequence of practical activity, and is truth to be identified with that which succeeds? or is success a result of science because knowledge is of real relations? While it is the primary aim of the author to give an unbiased outline of the existing condition of the discussion as manifested in the general problem of each science, he briefly indicates his own conclusion upon the subject in favor of the scientific or positivistic point of view as against the teaching of pragmatism. He affirms that the knowledge to be obtained by means of scientific method is satisfactory to his own requirements, but admits that there may be other needs for other natures.

We shall mention briefly some conclusions in the successive chapters. Mathematics, originating in experience, gives us knowledge of certain groups of real relations (order, number, extension). These once obtained, the scientist may proceed to manipulate them in an arbitrary manner, but the results of such manipulation apply to experience because of their foundation in original real elements. The author remarks that pragmatists have been frequently mistaken in claiming the teachings of scientists to be evidence of the theory of pragmatism. For example, Poincaré, instead of being a pragmatist, is too little of a pragmatist, since he does not require that arbitrary creation must refer back to experience if it is to be valid.

The problem of matter is one of experimental inquiry. Physics gives us knowledge of a more complex set of relations than those of mathematics.

The physicochemical theory of life gains ground every day and points to the conclusion that life is an *ensemble* of relations more rich and complex than those of matter and attached to the mechanical and physicochemical relations.

In the imperfect state of psychological science, the burden of attainment appears to promise conclusions the same as in the other domains of knowledge. Psychological science will consist "in establishing not only necessary relations between the different manifestations of psychological life, but also between these and certain manifestations of the biological life and certain actions of the environment." Pragmatism has rendered an important service in putting mind in nature.

Morality has nothing in common with theoretic speculation. It is an art, and must utilize the science concerned with the manners of men.

With respect to the problem of truth, there appear to be indications of the following solution: Relations, not terms, are given first in knowledge. Experience shows us the transformation of condition to conditioned. Science is not true because it succeeds, but succeeds because it is true.

In Chapter VII. the author presents the general conclusion as to the nature of philosophy. Science and philosophy differ not in object nor in method, but in point of view, the philosophical point of view being distinguished by being more general. It is the province of philosophy to coordinate the results of the sciences and to originate the general hypotheses for the sciences as a whole.

The style of the book is clear and concise, and the whole is interesting reading. One feels that the endeavor at impartial statement of positions has, on the whole, been accomplished. The discussions of the philosophic positions of the various sciences are illuminating. In the opinion of the reviewer the sketch of the theory of pragmatism appears to be mainly influenced by the movement of thought in France, although important reference is made to William James and the Anglo-American movement. This may account for the extreme emphasis upon the philosophic activity of the scientists. Thus some arguments cited as adverse to the contentions of pragmatism seem to be in harmony with recent technical discus-

sions of the subject. However, the omission of such material may have been necessitated by the summary and synthetic character of the study.

SAVILLA ALICE ELKUS.

NEW YORK CITY.

Elementary Experiments in Psychology. CARL E. SEASHORE. Henry Holt & Co. 1908. Pp. xi + 218.

The difficulty of developing an experimental attitude toward mental processes and of securing an adequate acquaintance with the spirit and methods of the experimental investigation of mental phenomena is presumably encountered by most teachers of large introductory classes in psychology. In the absence of a satisfactory manual of elementary experiments to accompany the text-book and lectures, students rarely get a first-hand acquaintance with mental processes and a real appreciation of methods of studying them. The result is that, while they may all learn much about psychology, they do not form the habit of psychologizing. A few may get the psychological attitude, but it is safe to say that the majority do not. Such class demonstrations as are practicable give crude results and are unsatisfactory. They may amuse and interest, but they are not particularly instructive. The time, labor, and expense involved in giving a large class actual laboratory practise, even with a well-equipped laboratory, makes this method of introduction to modern psychology impracticable.

For these reasons, to which every teacher will no doubt agree, there is a definite need for such a manual as Professor Seashore's "Elementary Experiments in Psychology." It is a valuable addition to the handbooks in psychology, and ought to be warmly welcomed in every quarter. The purpose of the book, as set forth in the author's preface, is "to meet the requirements for a series of experiments in the first course in psychology. It makes individual experiments, as opposed to class demonstrations, practicable, regardless of laboratory facilities or the size of the class. The student is given means and encouragement for pursuing each problem intensively in order that he may acquire independence of thought and action, realize the actuality of mental processes, and get here and there a vision of the vastness, the orderliness, the practical significance, and the charms of mental life."

This purpose of the book is admirably fulfilled. Great pedagogical skill and ingenuity are shown in the planning of simple experiments, which, if properly carried out, are sure to train the student in habits of introspection, to give him a knowledge of psychology as an experimental science and to arouse an interest in the solution of its problems. The experiments are well selected, can easily be made by one student alone or by two working together, except the experiment on reaction-time; they require very little apparatus, or such as can be readily obtained, and yet are adequate to illustrate psychological principles and give insight into methods of their study. The directions to the student are clear, concise, and unambiguous, and the brief discussions of the experiments are stimulating and suggestive.

The manual, moreover, covers a sufficiently wide range of topics to give the student familiarity with the problems and methods in the main lines of experimental investigation. The first three chapters treat of visual sensations—after-images, contrast, and the visual field. The fourth chapter gives the well-known experiments in visual space perception—entoptic phenomena, the retinal image, accommodation, double images, and stereoscopic vision. The fifth chapter gives a rather elaborate series of experiments in auditory space. The experiments on the visual field and on auditory localization strike the reviewer as being relatively too complex and difficult and to require greater ability in introspection than is likely to be found in the average student. The chapters which follow give well-chosen experiments in tactual space, cutaneous sensations, Weber's law, mental images, association, memory, apperception, attention, normal optical illusions, affective tone, and reaction-time. In the reaction-time experiments the chain-reaction method is of necessity adopted. This may do very well for a rough demonstration of simple reaction-time, but it is doubtful if it is even worth while to attempt to analyze out by its means the times of discrimination, choice, cognition, restricted association, free association, and judgment.

Professor Seashore's book is certain to be widely used, especially by the growing number of teachers who believe that an adequate introductory course in psychology can not be given without some actual experimental work. It will be of value to those students who do not pursue the subject beyond a first course, and will serve for those who do as a valuable introduction to laboratory work. Moreover, it should promote an intelligent interest in the study of psychological problems.

V. A. C. HENMON.

UNIVERSITY OF COLORADO.

JOURNALS AND NEW BOOKS

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE. October, 1908, Band XV, Heft 1. *Über das Problem der Freiheit auf Grund von Kants Kategorienlehre* (pp. 1–27): J. STILLING. – Conscience, our sense of freedom, and the categorical imperative are naturalistic in origin, developments under social conditions. *Aristoteles Urteile über die pythagoreische Lehre* (pp. 28–48): O. GILBERT. – Plato's "Philebus" shows the relation of the Pythagorean doctrines of odd and even, infinite and finite, to Aristotle's concepts, matter and form. *Die Geschichte des Symbolbegriffs in der Philosophie* (pp. 49–79): M. SCHLESINGER. – In the philosophy of ancient Greece symbolism was rather an attractive, poetic garb than a necessity of exposition. *Ästhetische und teleologische Geschichtspunkte in der antiken Physik* (pp. 80–113): A. E. HAAS. – The esthetic preference for circular motion, and for the distinction between celestial and mundane laws, retarded physics; at the same time all ancient sciences gained much from esthetic interest, and from the teleological

theories which it occasioned. *La théorie des incorporels dans l'ancien stoïcisme* (pp. 114–125): E. BRÉHIER. – For the stoic, events, qualities, and laws were the incorporeal and the unreal, that which is said or affirmed of the real, the sensible, the corporeal. *Bericht über die Philosophie der europäischen Völker im Mittelalter 1897–1907* (pp. 126–139): C. BAEUMKER. – Unfavorable criticism upon F. Uberweg's "Grundriss der Geschichte der Philosophie der patristischen und scholastischen Zeit," 1905 edition. *Die neueste Erscheinungen. Historische Abhandlungen in den Zeitschriften. Eingegangene Bücher.*

Chamberlain, Arthur Henry. *Standards in Education: With Some Consideration of their Relation to Industrial Training.* New York: The American Book Co. 1908. Pp. 265. $1.00.

Cutten, George Barton. *The Psychological Phenomena of Christianity.* New York: Charles Scribner's Sons. 1908. Pp. xviii + 497. $2.50 *net.*

Driesch, Hans. *The Science and Philosophy of the Organism.* The Gifford Lectures delivered before the University of Aberdeen in the year 1908. Vol. II. London: Adam & Charles Black. 1908. Pp. xvi + 381. $3.00 *net.*

Sidis, Boris. *An Experimental Study of Sleep.* From the Physiological Laboratory of the Harvard Medical School and from Sidis's Laboratory. Boston: Richard G. Badger. 1909. Pp. 106.

NOTES AND NEWS

THE following account by Professor Edouard Perrier, of the Museum d'Histoire Naturelle, of portions of a skeleton recently discovered in southern France in strata of the middle Pleistocene period is of exceptional interest: "The skull is that of a man of extremely low type, an ape-man, or perhaps of a man-ape of greater cranial capacity than any at present known. This great cerebral development leads M. Perrier to consider it, on the whole, a human skull. But the very thick, low cranial dome, the flattened forehead and pronounced orbital ridges, the broad nose separated from the forehead by a deep furrow, and the much elongated snout-like maxillaries combine to give the skull a marked gorilla-like seeming. The brain cavity, however, is, as already said, very much larger than that of the gorilla or any other present-day anthropoid. The limb bones are curved and present a conformation which indicates that this Pleistocene man walked more often on all-fours than in an erect position. The bones seem to be fairly intermediate between those of a man and those of the present-day anthropoids. Altogether Professor Perrier (whose scientific standing gives his opinions in the matter high authority) believes that he has in his hands—the specimens have been purchased by the museum—remains much more ancient than those of Neanderthal or Spy, and actually representing a type intermediate between Pithecanthropus and present man."

AT the recent meeting of the Southern Society for Philosophy and Psychology, held at the Johns Hopkins University, December 30–31, 1908, the following officers were elected for 1909: President, Professor Lefevre, of the University of Virginia; Vice-president, Dr. Franz, of the Government Hospital for the Insane; Secretary-treasurer, Professor Buchner, of the Johns Hopkins University. To serve three years as members of the Council: Professor Messenger, of the Virginia State Normal School, and Professor Ogden, of the University of Tennessee. Other members of the Council are Dr. Harris, of Washington, D. C., President Purinton, of the West Virginia University, Professor Baldwin, of the Johns Hopkins University, and Principal Halleck, of Louisville, Ky.

PROFESSOR HUGO MÜNSTERBERG has returned to Harvard University from a trip to Chicago, Toronto, and Ithaca. He spoke in Chicago before the Chicago Club on "Psychotherapy," before the Germanic Society on "Books and Readers in Germany and America," and before the Commercial Club on "Psychology in Commerce and Industry." In Toronto he addressed the Canadian Club on "Right and Wrong in the Prohibition Movement." At Cornell University he spoke on "New Developments in the Psychological Laboratory" and "Psychology and Law."

PROFESSOR HAECKEL will resign his chair at the end of the winter semester in order to devote himself to his phylogenetic museum. As his successors at Jena, the faculty has proposed Professor Lang, of Zurich, Professor Kückenthal, of Breslau, or Professor Platte, of Berlin. It is said that Professor Platte will be selected by the administration.

THE Clarendon Press is publishing in two volumes the papers read before the recent Congress for the History of Religions, held at Oxford. From the same press comes a low-priced reprint of Jowett's translation of Plato's "Republic." The volume contains the translator's introduction and the analysis which appears in the third edition.

THE Society for Philosophical Inquiry held a meeting at the George Washington University on Tuesday afternoon, January 12. The topic for discussion was "Music and its Relation to the other Arts and to General Culture." Professor George L. Raymond was speaker for the afternoon.

WILLIAMS AND NORGATE are publishing a translation of the latest work of Professor Rudolf Eucken, who received recently the Nobel Prize for literature. The translation is entitled "The Life of the Spirit."

PROFESSOR G. S. BRETT, formerly of the Government College at Lahore, India, has been appointed lecturer in classical philosophy at Trinity College, Toronto.

THE date for the unveiling of the monument to Lamarck, in Paris, has been postponed until next May. It will occur just before the Darwin celebration.

A REPRODUCTION of the first edition of the "Critique of Pure Reason," published by Hartknoch at Riga, in 1781, is announced.

MR. ASA GIFFORD, of Yale University, has been appointed instructor in philosophy at Bryn Mawr College.